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The hollow face illusion in infancy

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Abstract

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boundary or the ability to discriminate within-category and between-category pairs of faces. In contrast, for the sadness – fear continuum, older adults differed from younger adults in the locus of the category boundary and were less accurate in discriminating between-category but not within-category pairs of faces. This suggests that difficulties in processing emotional expressions of fear and sadness may be caused by age-related changes in sensitivity to variation between perceptual categories.
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◆ **Does visual categorization really shape feature selectivity in the primate temporal cortex?**
YNajian, Sh Talehy Moineddin¶, F Sodagari¶ (Department of Basic Sciences, Nikan Health Research Institute, Tehran, Iran; ¶ Iran University of Medical Sciences, Tehran, Iran; e-mail: yousef.najian@gmail.com)
Activity in the human temporal cortex is thought to be sensitive to the categorization level of the stimuli and to depend on the expertise of the observer. Sigala and Logothetis (2002 *Nature* **415** 318 – 320) published an article with the aim of testing whether inferior temporal cortex neurons respond selectively to object features that constitute the relevant dimensions for visual object categorization. They defined parameterized line drawings of faces each consisting of an outline and four varying features as stimuli and trained two monkeys in a categorization task. They claimed that the categories were separable along two of the four dimensions of the stimuli. On examining their stimuli again, we found that the face categories were separable along the combination of one feature with each of the remaining features. Therefore, there was only one diagnostic dimension and the monkey could optionally select the second one for categorization. Assuming that the selectivity index for the real unitary diagnostic feature was much larger than for the other three features, we find the interpretation to be different.

◆ **The hollow face illusion in infancy**
E Nakato, H Hill¶, Y Otsuka§, S Kanazawa#, M Yamaguchi (Department of Psychology, Chuo University, Hachioji, Japan; ¶ University of Wollongong, Wollongong, Australia; § Tokyo Women's Medical University, Tokyo, Japan; # Shukutoku University, Chiba, Japan; e-mail: enakato@komazawa-u.ac.jp)
The hollow-face illusion is perceived on the basis of two assumptions: (i) top – down knowledge for faces, (ii) convexity preference of patterns of shading (Hill and Johnson, 2007 *Perception* 199 – 223). We examined the effect of the hollow-face illusion in infants aged 6 – 8 months. Infants were first familiarized for 80 s with a male face either in the convex or the concave condition. In both conditions each face was moved from side to side over 20°. After familiarization, infants were tested with a pair of novel convex and concave faces in two 10 s trials. If infants perceived a hollow mask as a convex face, they would show a novelty preference for the novel concave faces in test phase. The results indicated infants' preference for concave faces only in the convex condition. The results suggest that the hollow-face illusion did not appear even in 8-month-old infants.
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◆ **The effects of camera and light angles on the recognition of emotion from the face**
M Oda (Department of Psychology, Ritsumeikan University, Kyoto, Japan; e-mail: oda@lt.ritsumei.ac.jp)
The effects of camera and light angles on the recognition of facial expressions were investigated. Facial expressions and neutral faces were taken by five cameras simultaneously under four light direction conditions. The participants rated emotional intensity and reality of the stimuli. Angry faces were rated stronger in the front camera and in the front light, and weaker in the side camera and in the side light. Smiling faces were regarded as weaker in the upper camera and in the upper/side light. On the other hand, neutral faces were regarded as angry faces in the diagonal/side camera condition and upper light condition, and as smiling faces under the low light condition. These results indicate that the camera and light angles influence the facial impression, and intensity of emotion changes by the combination of emotional types, camera angles, and light angles. Moreover, the effects of camera and light angles on the neutral face and emotional expressions face could be caused by different mechanisms respectively.

◆ **The effects of adaptation duration on contrast thresholds in face identification**
I Oruc, J J Barton (Department of Ophthalmology and Visual Sciences, University of British Columbia, Vancouver, Canada; e-mail: ipek@psych.ubc.ca)
We report a novel face-adaptation paradigm in which we probe the effect of prior exposure on contrast thresholds for face identification. Each trial consisted of an adaptation period (showing a